



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
-----------------	-------------	----------------------	---------------------	------------------

09/865,153

05/24/2001

Gerald T. Mearini

0937.0014

2815

7590

01/13/2005

D. Joseph English, Esquire

Duane Morris LLP

1667 K Street, N.W.

Suite 700

Washington, DC 20006

EXAMINER

PRITCHETT, JOSHUA L

ART UNIT

PAPER NUMBER

2872

DATE MAILED: 01/13/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 09/865,153	Applicant(s) MEARINI ET AL.	
	Examiner Joshua L Pritchett	Art Unit 2872	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 28 October 2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 11-15 and 17 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 11-14 and 17 is/are allowed.
- 6) ☒ Claim(s) 15 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 24 May 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

This action is in response to Amendment filed October 285, 2004. Claims 1-10 and 16 have been cancelled and claim 17 has been added as requested by the applicant.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claim 15 is rejected under 35 U.S.C. 103(a) as being unpatentable over Phillips (US 6,545,809) in view of Wagal (US 4,987,007) and Wolfe (US 5,377,045).

Phillips teaches a means for monitoring layer growth (col. 5 lines 41-44), a means for depositing the high index layer onto a substrate (Fig. 2), a means for depositing the diamond-like carbon onto the high index layer (Fig. 2), a means for monitoring the indices of refraction (col. 4 lines 56-60) and a means for directed an ion beam onto the carbon layer (col. 4 line 54). Phillips teaches a required range for the physical layer thickness and the indices of refraction, therefore one of ordinary skill would find it obvious to have a means for monitoring those values to guarantee the values are within the specified ranges. Phillips lacks reference to the monitoring of

Art Unit: 2872

intrinsic stress and adjusting the intrinsic stress. Wolfe teaches means for monitoring and adjusting the intrinsic stress (col. 2 lines 17-20). Wagal teaches a means for smoothing the carbon layer (abstract). Wagal teaches a surface roughness of 1 Angstrom, which is approximately atomically smooth. Wagal teaches a required range for the smoothness of the carbon layer, therefore one of ordinary skill in the art would find it obvious to provide a means to achieve the smoothness. It would have been obvious to one of ordinary skill in the art at the time the invention was made to have the Phillips invention include the smoothness of Wagal for the purpose of reducing light scattering at the surface of the carbon layer. It would further have been obvious to a person of ordinary skill in the art at the time the invention was made to have the Phillips invention include the intrinsic stress monitoring and adjust of Wolfe for the purpose of producing a hard and chemically resistant film.

Response to Arguments

Applicant's arguments, see Amendment, filed October 28, 2004, with respect to claims 11-14 have been fully considered and are persuasive. The rejection of claims 11-14 has been withdrawn.

Applicant's arguments, see Amendment, filed October 28, 2004, with respect to the objection to claim 14 have been fully considered and are persuasive. The objection of claim 14 has been withdrawn on the understanding that the term approximately in the applicants' claim language means 20% plus or minus experimental accuracy.

Applicant's arguments filed October 28, 2004 have been fully considered but they are not persuasive.

On page 8 applicant argues that the prior art fails to teach a surface roughness of less than 0.05 nanometers and that the surface roughness is a critical feature of the invention. The examiner agrees that a surface roughness of 1 Angstrom does not meet the claim limitations with regards to being less than 0.05 nanometers. However, a surface roughness of 1 Angstrom does meet the claim limitation of "approximately atomically smooth" as state in claim 15. The interstitial distance between atoms in a lattice structure is on the order of 1 Angstrom and therefore a roughness of 1 Angstrom is "approximately atomically smooth."

Allowable Subject Matter

Claims 11-14 and 17 are allowed.

The following is an examiner's statement of reasons for allowance:

Regarding claims 11 and 17, the prior art of record fails to teach or suggest an optical filter with a diamond-like carbon layer with a surface roughness of 0.05 nanometers.

The remaining claims depend from claim 11 and are allowable for the same reasons.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue

Art Unit: 2872

fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Conclusion

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.


Any inquiry concerning this communication or earlier communications from the examiner should be directed to Joshua L Pritchett whose telephone number is 571-272-2318. The examiner can normally be reached on Monday - Friday 7:00 - 3:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Drew A Dunn can be reached on 571-272-2312. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Art Unit: 2872

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

JLP *JP*


DREWA. DUNN
SUPERVISORY PATENT EXAMINER